

plasma in humans or animals, characterized in that it has a slow release only of vitamin C and a plain release only of vitamin E; *written descr. ? 112(1) ? No.*

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wherein vitamin C is present in an amount in the delivery system so as to deliver a daily dose corresponding to 60 mg - 2 g of vitamin C, and vitamin E is present in an amount in the delivery system so as to deliver a daily dose corresponding to 50 mg - 500 mg of α -tocopherol;

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wherein the solubility of the vitamin E is such that at least 90% of the vitamin E is dissolved in less than 30 minutes under the conditions of Test B; and

wherein the solubility of the vitamin C is such that less than 40% of the vitamin C is dissolved after 1 hour under the conditions of Test A; and

wherein said delivery system achieves a concentration of vitamin E in the blood plasma of at least 20 $\mu\text{mol/liter}$ and a concentration of vitamin C in the blood plasma of at least 40 $\mu\text{mol/liter}$.

39. (New) A pharmaceutical delivery system according to claim 38, characterized in that it is a system comprising a tablet comprising at least two non-identical delivery principals, wherein

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- a) one delivery principal comprises
 - i) vitamin C;
 - ii) a pharmaceutically acceptable excipient for controlling the slow release of vitamin C; and
 - iii) optionally, at least one other pharmaceutically acceptable excipient; and
 - b) another delivery principal comprises

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- i) vitamin E; and
- ii) at least one pharmaceutically acceptable excipient.

40. (New) A pharmaceutical delivery system according to claim 38, characterized in that the antioxidants are present in amounts so as to obtain vitamin C and vitamin E in a ratio in the blood plasma of 1:1 to 3:1.

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41. (New) A pharmaceutical delivery system according to claim 40, characterized in that the system achieves a ratio between vitamin C and vitamin E in the blood plasma that is about 2.2:1.

42. (New) A pharmaceutical delivery system according to claim 38, characterized in that the antioxidants are present in amounts so as to raise the concentration of vitamin E in human blood plasma to at least 30 $\mu\text{mol/liter}$.

43. (New) A pharmaceutical delivery system according to claim 38, wherein the antioxidants are present in amounts so as to raise the concentration of vitamin E in human blood plasma to at least 50 $\mu\text{mol/liter}$.

44. (New) A pharmaceutical delivery system according to claim 38, wherein the antioxidants are present in amounts so as to raise the concentration of vitamin C in blood plasma to at least 60 $\mu\text{mol/liter}$.

FINNEGAN
HENDERSON
FARABOW
GARRETT &
DUNNER LLP

1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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45. (New) A pharmaceutical delivery system according to claim 38, wherein the antioxidants are present in amounts so as to raise the concentration of vitamin C in blood plasma to at least 100 $\mu\text{mol/liter}$.

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Part B

46. (New) A pharmaceutical delivery system according to claim 38, characterized in that vitamin C is ascorbic acid and vitamin E is selected from the group consisting of d- α -tocopheryl acetate, d- α -tocopheryl acid succinate, d- α -tocopherol, d- β -tocopherol, d- γ -tocopherol, d- δ -tocopherol, d- α -tocotrienol, d- β -tocotrienol, d- γ -tocotrienol, d- δ -tocotrienol, dl- α -tocopherol, dl- α -tocopheryl acetate, dl- α -tocopheryl calcium succinate, dl- α -tocopheryl nicotinate, dl- α -tocopheryl linoleate/oleate, and all other possible derivatives or stereo isomeric forms of the above compounds.

47. (New) A pharmaceutical delivery system according to claim 38, wherein vitamin C is provided in an amount sufficient to deliver 100 mg - 1.5 g of ascorbic acid per day.

48. (New) A pharmaceutical delivery system according to claim 38, wherein vitamin E is provided in an amount sufficient to deliver 100 mg - 250 mg of α -tocopherol per day.

49. (New) A pharmaceutical delivery system according to claim 38, wherein the vitamin C and E is delivered by 1 to 8 dosage units per day.

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Washington, DC 20005
202.408.4000
Fax 202.408.4400
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50. (New) A pharmaceutical delivery system according to claim 38, wherein the vitamin C and E are delivered by 1 or 2 dosage units per day.
51. (New) A pharmaceutical delivery system according to claim 50, wherein the daily dose of vitamin C and E is delivered by 2 dosage units, each dosage unit comprising i) from approximately 200 to 300 mg of vitamin C and ii) approximately 80 to 120 mg of vitamin E.
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52. (New) A pharmaceutical delivery system according to claim 38, characterized in that less than 40% of the vitamin C is dissolved after 1 hour under the conditions of Test A, from 50 to 80% of the vitamin C is dissolved after 3 hours under the conditions of Test A, and more than 90% of the vitamin C is dissolved after 7 hours under the conditions of Test A.
53. (New) A pharmaceutical delivery system according to claim 38, characterized in that at least 90% of the vitamin E is dissolved in less than 15 minutes under the conditions of Test B.
54. (New) A pharmaceutical delivery system according to claim 38 for treating conditions, diseases, and disorders involving oxidative stress.
55. (New) A pharmaceutical delivery system according to claim 54, wherein the conditions, diseases, and disorders involving oxidative stress are selected from the group consisting of atherosclerosis, cancer, type I diabetes, type II diabetes, diabetic nephropathy, skin

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Washington, DC 20005
202.408.4000
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damage, scar tissue, central nervous system disorders and degeneration, neural degeneration, Alzheimer's Disease, inflammation, fertility/fecundity diseases and disorders, conditions, diseases, and disorders related to sun exposure, diseases and disorders related to aging, cataracts, inappropriate coagulation, and nitrate intolerance.

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56. (New) A pharmaceutical delivery system according to claim 55, wherein the conditions, diseases, and disorders involving oxidative stress are selected from the group consisting of atherosclerosis, type I diabetes, type II diabetes, diabetic nephropathy, central nervous system disorders and degeneration, neural degeneration, Alzheimer's Disease, conditions, diseases and disorders related to sun exposure, and cataracts. *composition
claim. no part. wt.
no 110,*

57. (New) A method of treating oxidative stress disorders and associated diseases and conditions, said method comprising administering to an individual a combination of vitamin C and vitamin E in sufficient amounts to raise the concentration of said vitamins in blood plasma to a level sufficient to treat oxidative stress disorders, and to a ratio of approximately 1:1 to 3:1, in not more than 8 weeks from the first administration,

wherein the method achieves a concentration of vitamin E in the blood plasma that is at least 20 $\mu\text{mol/liter}$ and a concentration of vitamin C in the blood plasma that is at least 40 $\mu\text{mol/liter}$; and

wherein the administering is in amounts corresponding to a daily dose of 60 mg - 2 g of vitamin C and corresponding to a daily dose of 50 mg - 500 mg of α -tocopherol.

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Washington, DC 20005
202.408.4000
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58. (New) A method according to claim 57, wherein the raising is within 4 weeks.
59. (New) A method according to claim 57, wherein the method achieves a concentration of vitamin C in the blood plasma that is at least 80 $\mu\text{mol/liter}$.
60. (New) A method according to claim 57, wherein the method achieves, in blood plasma, a concentration of vitamin C of from about 102 to 142 $\mu\text{mol/liter}$, and a concentration of vitamin E of from about 46 to 65 $\mu\text{mol/liter}$.
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61. (New) A method according to claim 57, wherein the administration is of an at least once daily dose of dosage units comprising a slow release formulation only of vitamin C and a plain release formulation only of vitamin E.
62. (New) A method according to claim 61, wherein the daily dose of vitamin E corresponds to 100 mg - 250 mg of α -tocopherol.
63. (New) A method according to claim 61, wherein the daily dose of vitamin C corresponds to 300 mg -600 mg of ascorbic acid.
64. (New) A method according to claim 61, wherein the at least once daily dose is delivered by at most 8 dosage units.

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1300 I Street, NW
Washington, DC 20005
202.408.4000
Fax 202.408.4400
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65. (New) A method according to claim 61, wherein the at least once daily dose is delivered in 1 or 2 dosage units.

66. (New) A method according to claim 65, wherein the daily dose of vitamins C and E is delivered by 2 dosage units, each dosage unit comprising i) from approximately 200 to 300 mg of vitamin C and ii) approximately 80 to 120 mg of vitamin E.

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Sub B

67. (New) A method of treating oxidative stress disorders and associated diseases and conditions, said method comprising administering to an individual at least one dosage unit per day of a combination of vitamin C and vitamin E in sufficient amounts to raise the concentration of said vitamins in blood plasma sufficiently to treat at least one oxidative stress disorder and to a controlled ratio;

wherein said vitamin C is formulated only in a slow-release preparation and vitamin E is formulated only in plain-release formulation;

wherein the method achieves a concentration of vitamin E in the blood plasma of at least 20 $\mu\text{mol/liter}$, and a concentration of vitamin C in the blood plasma of at least 40 $\mu\text{mol/liter}$;

wherein the at least one dosage units delivers a daily dose corresponding to 60 mg - 2 g of vitamin C and a daily dose corresponding to 50 mg - 500 mg of α -tocopherol; and

wherein the formulation of vitamin E is such that at least 90% of vitamin E is dissolved in less than 30 minutes under the conditions of Test B, and the formulation of vitamin C is such that less than 40% of vitamin C is dissolved after 1 hour under the conditions of Test A.

Omnibus

68. (New) A method according to claim 67, wherein the controlled ratio is from 1:1 to 3:1 of vitamin C to vitamin E, as measured ~~within~~ 8 weeks from the first administration.

69. (New) A method according to claim 67, wherein the method achieves, in blood plasma, a concentration of vitamins C of from about 102 to 142 $\mu\text{mol/liter}$, and a concentration of vitamin E of from about 46 to 65 $\mu\text{mol/liter}$.

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70. (New) A method according to claim 67, wherein the at least one dosage unit is at most 8 dosage units.

71. (New) A method according to claim 70, wherein the at least one dosage unit is 1 or 2 dosage units.

72. (New) A method according to claim 67, wherein the daily administration is of a daily dose of vitamin E corresponding to 100 mg - 250 mg of α -tocopherol.

73. (New) A method according to claim 67, wherein the daily administration is of a daily dose of vitamin C corresponding to 250 mg - 750 mg of ascorbic acid.--

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1300 I Street, NW
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Fax 202.408.4400
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